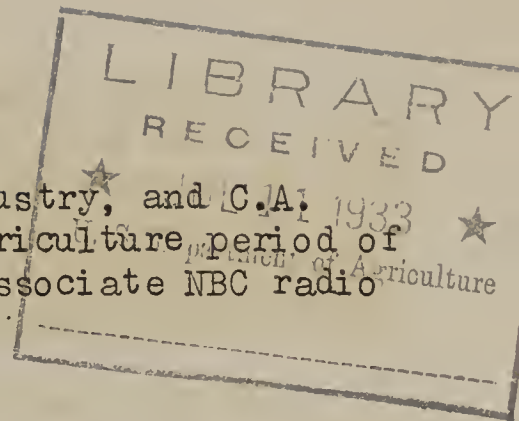


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THE GARDEN CALENDAR

A radio discussion by W. R. Beattie, Bureau of Plant Industry, and C.A. Weigel, Bureau of Entomology, delivered in the Department of Agriculture period of the National Farm and Home Hour, broadcast by a network of 49 associate NBC radio stations, Wednesday, May 24, 1933.



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BEATTIE:

Hello Folks! Right now our annual fight to control garden insects is on, and we need the latest information, so I've asked Mr. C.A. Weigel, of the Bureau of Entomology, to join me today. Mr. Weigel, I suppose we should start our discussion by reminding the folks that garden insects are divided into two general classes, based on their methods of feeding.

WEI GEL:

Yes Beattie, that is true. First, we have the chewing insects that actually eat and swallow the tender parts of our plants, and, second, we have the sucking insects that pierce the plant tissues and draw out the vital juices. Most of our control methods are based on these differences in the feeding habits of insects. For that reason we employ two classes of chemicals for controlling our garden insects. For the first class, or the chewing insects, we use what we call stomach poisons, that is, poisons that the insects take into their stomachs with their food. For the second class, the sucking insects, we have to use contact poisons or those that kill by suffocation, because they do not eat the outside tissues of our plants.

BEATTIE:

Right now, I'm having trouble with plant lice or aphids, and I have no doubt that many of our gardeners are having the same trouble. What do you consider the best methods of fighting these insects?

WEI GEL:

Well Beattie, aphids or plant lice belong to the class known as sucking insects, and they suck the sap or juices of the plants. Among the aphids that give most trouble in flower gardens are the green rose aphid, the black chrysanthemum aphid, the green chrysanthemum aphid, and the bean or nasturtium aphid. In addition, we have certain kinds of aphids that work on the roots of plants, and on bulbs. Take asters, for example, after an attack of root aphids the leaves turn yellow, the plants stop growing, and, if you'll carefully dig up one of these affected plants, you will usually find the bluish-green aphids at its roots.

BEATTIE:

I'd like to know where the first aphids in the spring come from. I find them on my roses almost as soon as the leaves start.

WEI GEL:

Yes, the aphids appear very early in the season. They come from eggs that were laid last fall in the leaf buds. With the approach of warm weather in the spring, and the starting of the buds, these eggs hatch and the young lice soon begin feeding, and start a colony of aphids, then they spread very quickly.

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Certain common garden ants play an important role in the lives of plant lice. These ants are very fond of the sweet sticky material known as "honeydew" that is secreted by the aphids so that where you find aphids you will usually find the ants visiting the plants. The ants also assist in the transfer of the aphids from plant to plant, and in this way cause a more rapid spread of the plant lice in your garden.

In the case of the root aphids on the aster plants there is a very close co-operation for their mutual welfare. In the fall the ants carry the aphids into the ant hills and harbor the insects over winter. In the spring they place them on the roots of your newly-set aster plants through the burrows they make in the soil.

BEATTIE:

Sort of a partnership affair? Well, it seems to be a case of real cooperation. Now, how about the best ways of controlling the different kinds of aphids that work on our flowering and ornamental plants?

WEI GEL:

First, get rid of the ants in your garden by locating their nests, pouring a little carbon bisulphid into the openings and quickly closing the hole with soil and keeping the surface moistened to retain the fumes. Poisoned syrups may be used. Ask your county agent for the correct way to make and use them. You can control aphids by means of sprays and dusts.

BEATTIE:

How do you prepare the spray and the dust, and how do you apply them?

WEI GEL:

You will find full instructions on the package containing the bottle or other container in which the nicotine sulphate is sold. Follow those directions, or consult your county agricultural agent. It is important that you prepare the spray or the dust properly, and it is even more important that you make a thorough application to all parts of the plant, especially to the undersides of the leaves and the buds where the insects are feeding.

BEATTIE:

Many of our folks are beginning to ask about a sort of a weeping stain or bleeding on the iris leaves and flower stems. Can you tell if an insect causes this, and, if so, how do you control it?

WEI GEL:

That is the work of the iris borer. You see the parent moth laid its eggs last fall at the base of the plant, and tiny caterpillars hatched late this spring. The young caterpillars are now eating their way inside of the leaves and stems down to the roots and these cause the stain or bleeding that you mentioned.

By July or August the caterpillars will be full grown and about 1 1/2 inches long with a pronounced pinkish tinge. Sometimes they destroy the entire roots. Later these caterpillars will pupate and produce a moth which will lay eggs. You can protect your plants now by looking for the injured leaves and stems and firmly

squeezing these between the thumb and forefinger beginning at the ground and working upward. When you lift and divide the clumps cut out and burn all worms and infested portions.

BEATTIE:

This week several inquiries have come in regarding worms and caterpillars that are eating the Dutchman's pipevine as well as those on Hollyhocks and several other kinds of flowering plants. What can you do for these?

WEI GEL:

No doubt several species are involved. The first is probably the Dutchman's Pipevine Swallow-tail. The worms on the Hollyhocks may be the larvae of the Abutilon moth. Many kinds of caterpillars will soon be putting in their appearance, including the cabbage looper on Chrysanthemums, the cabbage worm on Nasturtiums, Mignonette and Sweet Alyssum, and several other insects, including the Canna leaf roller and other leaf rollers.

BEATTIE:

I presume you recommend the regular stomach poisons such as lead arsenate for the control of these leaf-eating insects?

WEI GEL:

Yes, that's right, but we sometimes recommend pyrethrum or one of the pyrethrum extracts where it may not be safe to use the arsenical poisons.

BEATTIE:

We get a lot of inquiries about how to control cutworms in gardens. What do you recommend?

WEI GEL:

Yes Beattie, cutworms often attack flowering plants, including the Dahlia, Rose, Zinnia, Geranium, Carnation, and Aster. They simply cut the plants off right at the ground. You can destroy cutworms by using poisoned bait made as follows: For a small quantity take one ounce of Paris green or white arsenic, 1 1/4 pounds of dry wheat bran and rub the two together thoroughly while dry, then add 4 fluid ounces, about 8 tablespoonfuls of molasses and half a pint of water. It is best to mix the syrup with the water before applying it to the bran and arsenic. Scatter the poisoned bait thinly on the ground among your plants after sundown so as to tempt the cutworms to eat it when they come out of their hiding places late in the evening.

BEATTIE:

And how about grasshoppers? How do you control them?

WEI GEL:

Grasshoppers and also crickets can usually be poisoned by means of the bran-arsenic bait I just described for cutworms.

BEATTIE:

Paris green or white arsenic 1 ounce. Wheat bran 1 1/4 pounds, mix the two together while dry so that every particle of the bran will become coated with the arsenical, then mix 4 fluid ounces or about 8 tablespoonfuls of molasses or syrup with 1/2 pint of water, and add to the bran and arsenical and mix until you have a uniformly moistened bran mixture. Is that right?

WEI GEL:

Yes, that's right, and be sure to spread the mixture thinly on the ground around your plants where the insects will find it.

BEATTIE:

What other insects are especially troublesome in the flower garden?

WEI GEL:

At this time of the year, many people are asking for information about the control of a small, very active bug with reddish wing margins which attacks phlox. This is the phlox bug. Spraying with nicotine sulphate very early in the morning when the insects are inactive is effective against the young. The adults may be collected by beating them into a shallow pan containing water with a film of kerosene.

Flea beetles are also very troublesome. They're quite small you know and very active - usually of a metallic color - and they eat holes in the leaves of petunias, primroses, stocks, wallflowers, and alpine rock cress. If taken in time you can control them by dusting your plants with a mixture consisting of 8 or 9 ounces of hydrated lime and 1 ounce of lead arsenate, or spray with 3 gallons of water to which an ounce of dry arsenate of lead has been added and well mixed. Spraying with Bordeaux mixture will help to drive them away.

There is another class of insects known as "thrips" that often injure our flowers, especially the flowers of bulbs and gladiolus. They're very small, in fact, you rarely ever see them, but they cause a browning of the petals, and the flowers sometimes fail to open normally. Spray with nicotine sulphate and soap solution, and clean up and destroy all old or badly infested blooms.

BEATTIE:

We gardeners certainly do have a lot of insects to contend with.

WEI GEL:

We certainly do, and you and I have only mentioned a very few so far, but the main thing is to begin your fight early and prevent the insects getting a start of you. Very often the mischief is done when you first observe that the insects are at work. This is especially true of the aphids or sucking insects and frequently the leaves of your roses or other plants are curled and ruined before you realize that the insects are present. The main point is to have your remedies on hand and start your fight before the insects get established.